



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,331	04/12/2006	Patrick Fontaine	PF030159	3620
7550		09/17/2009		
Joseph J Laks Patent Operations Thomson Licensing Inc PO Box 5312 Princeton, NJ 08543-5312				
EXAMINER				
REGO, DOMINIC E				
ART UNIT		PAPER NUMBER		
2618				
MAIL DATE		DELIVERY MODE		
09/17/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/575,331

Applicant(s)

FONTAINE ET AL.

Examiner

DOMINIC E. REGO

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 15 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 15 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/04/2009 has been entered.
2. This communication is responsive to the application filed on August 04, 2009. Claims 1-9,15, and 18 are pending and presented for prosecution. Claim 1 has been amended.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. Claims 1-3,5-9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior art in view of Okawa et al (US Patent #7,099,697) in view of Proctor, Jr. et al. (US Patent #6,941,152).

Regarding claim 1, Admitted Prior Art teaches a method of communication in transmitting/receiving stations in a wireless communication network, in which multi-receiver frames are exchanged between a station and a plurality of other stations indicating the transmitting station and the receiving station in an omnidirectional manner using an omnidirectional antenna (Page 2, lines 5-8; lines 21-27), and mono-receiver frames are exchanged between the transmitting station and the receiving station (Page 2, lines 23-24), but does not specifically teach in a directional manner using a directional antennas at the transmitting station and at the receiving station, wherein the transmission in an omnidirectional manner is effected in a more robust fashion than the transmission in a directional manner using a directional antenna.

However, in related art, Okawa teaches in a directional manner using a directional antennas at the transmitting station and at the receiving station (See *Abstract, Col 3, line 25-col 4, line 37, Col 5, lines 32-45, Claims 1, 6, and 7, especially col 5, lines 32-45, Okawa teaches a mobile communication system 100 comprises a base station 10, a radio network control equipment 20, and a plurality of mobile stations 30. The base station 10 connects radio links with the mobile stations 30 existing in each sector, and performs signal reception/transmission. The base station 10 has both an array antenna and a sector antenna for each sector. The array antenna is a directional antenna that receives/transmits directional beams. The array antenna transmits a beam by narrowing it to each mobile station 30. The sector antenna is an omnidirectional antenna that receives/transmits omnidirectional beams. The sector antenna transmits a beam that covers the entire sector so that all mobile stations 30 in the sector may*

receive signals). Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Okawa to Admitted Prior Art in order to suppress the interference power from other mobile stations (See Okawa, Col 1, lines 28-32).

The combination of Admitted Prior Art and Okawa fail to teach wherein the transmission in an omnidirectional manner is effected in a more robust fashion than the transmission in a directional manner using a directional antenna.

However, in related art, Proctor, Jr. teaches wherein the transmission in an omnidirectional manner is effected in a more robust fashion than the transmission in a directional manner using a directional antenna (Col 1, lines 18-48; Col 4, line 59-Col 5, line 33). Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Proctor, Jr. to Admitted Prior Art and Okawa in order to reduce interference.

Regarding claim 2, the combination of Admitted Prior Art, Okawa and Proctor, Jr. teach all the claimed elements in claim 1. In addition, Proctor, Jr. teaches the method according to claim 1, wherein the more robust transmission is effected at a lower throughput than the less robust transmission (Col 4, line 59-Col 5, line 33).

Regarding claim 3, the combination of Admitted Prior Art, Okawa and Proctor, Jr. teach all the claimed elements in claim 1. In addition, Proctor, Jr. teaches the method, wherein the mono-receiver frames are modulated by a modulation with a first number of phases and in that the multi-receiver frames are modulated by a modulation

with a second number of phases, and in that the first number of phases is greater than the second number of phases (Col 4, line 59-Col 5, line 33).

Regarding claim 5, the combination of Admitted Prior Art, Okawa and Proctor, Jr. teach all the claimed elements in claim 1. In addition, Proctor, Jr. teaches the method, wherein the mono-receiver frames are coded with a first forward error correction rate and the multi-receiver frames are coded with a second forward error correction rate, and in that the first rate is higher than the second rate (Col 4, line 59-Col 5, line 33).

Regarding claim 6, the combination of Admitted Prior Art, Okawa and Proctor, Jr. teach all the claimed elements in claim 5. In addition, Admitted Prior Art teaches the method, wherein the mono-receiver frames and the multi-receiver frames are modulated by the same modulation (Page 2, lines 17-36).

Regarding claim 7, the combination of Admitted Prior Art, Okawa and Proctor, Jr. teach all the claimed elements in claims 5 and 12. In addition, Admitted Prior Art teaches the method, wherein the transmission is in compliance with one of the standards belonging to the set comprising: Hiperlan type 2; and IEEE802.11a (Page 1, lines 24-25).

Regarding claim 8, the combination of Admitted Prior Art, Okawa and Proctor, Jr. teach all the claimed elements in claim 1. In addition, Admitted Prior Art teaches the method, wherein the transmission is in compliance with IEEE 802.11g (Page 1, lines 24-25).

Regarding claim 9, Admitted Prior Art teaches a transmitting and/or receiving

station for a wireless communication network, wherein said station comprises an omnidirectional antenna (Page 2, lines 25-27) to transmit and/or receive multi-receiver frames in an omnidirectional manner indicating the transmitting and the receiving station (Page 2, lines 5-8; lines 21-27) and at least one antenna to transmit and/or receive mono-receiver frames (Page 2, lines 23-24), determined by the multi-receiver frames (Page 2, lines 5-25), but does not specifically teach directional antenna to transmit and receive in a directional manner and the transmission in a omnidirectional manner being effected in a more robust fashion than the transmission in a directional manner.

However, in related art, Okawa teaches directional antenna to transmit and receive in a directional manner (*See Abstract, Col 3, line 25-col 4, line 37, Col 5, lines 32-45, Claims 1, 6, and 7, especially col 5, lines 32-45, Okawa teaches a mobile communication system 100 comprises a base station 10, a radio network control equipment 20, and a plurality of mobile stations 30. The base station 10 connects radio links with the mobile stations 30 existing in each sector, and performs signal reception/transmission. The base station 10 has both an array antenna and a sector antenna for each sector. The array antenna is a directional antenna that receives/transmits directional beams. The array antenna transmits a beam by narrowing it to each mobile station 30. The sector antenna is an omnidirectional antenna that receives/transmits omnidirectional beams. The sector antenna transmits a beam that covers the entire sector so that all mobile stations 30 in the sector may receive signals*). Therefore, it would have obvious to one of ordinary skill in the art at the time of the

invention to provide the above teaching of Okawa to Admitted Prior Art in order to suppress the interference power from other mobile stations.

The combination of Admitted Prior Art and Okawa fail to teach the transmission in a omnidirectional manner being effected in a more robust fashion than the transmission in a directional manner

However, in related art, Proctor, Jr. teaches the transmission in a omnidirectional manner being effected in a more robust fashion than the transmission in a directional manner (Col 1, lines 18-48; Col 4, line 59-Col 5, line 33). Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Proctor, Jr. to Admitted Prior Art and Okawa in order to reduce interference.

Regarding claim 18, the combination of Admitted Prior Art, Okawa and Proctor, Jr. teach all the claim element in claim 9. In addition, Proctor, Jr. teaches wireless communication network wherein it comprises several transmitting and/or receiving stations (Proctor, Jr., Figure 2 and Admitted Prior Art, Page 1, lines 33-35).

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art in view of Okawa et al (US Patent #7,099,697) in view of Proctor, Jr. et al. (US Patent #6,941,152) and further in view of Trompower (US Patent #6,132,306).

Regarding claim 4, the combination of Admitted Prior Art, Okawa and Proctor, Jr. fail to teach the method, wherein the mono-receiver frames are modulated by a

modulation with more than two phases and in that the multi-receiver frames are modulated by a two phases modulation.

However, in related art, Trompower teaches the method, wherein the mono-receiver frames are modulated by a modulation with more than two phases and in that the multi-receiver frames are modulated by a two phases modulation (Col 11, lines 17-34). Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Trompower to Admitted Prior Art, Okawa and Proctor, Jr. in order to avoid interference.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art in view of Okawa et al (US Patent #7,099,697) in view of Proctor, Jr. et al. (US Patent #6,941,152) and further in view of Pekonen et al. (US Patent #7,092,672).

Regarding claim 15, the combination of Admitted Prior Art, Okawa and Proctor, Jr. teach all the claimed elements in claim 9, except the station, wherein it comprises four directional antennas oriented at 90 degree with respect to one another.

However, in related art, Pekonen teaches station, wherein it comprises four directional antennas oriented at 90 degree with respect to one another (Col 4, lines 35-55).

Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Pekonen to Admitted Prior Art, Okawa and Proctor, Jr. in order to enable the antenna's angle of coverage to be adjusted.

7. Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner. SEE MPEP 2141.02 [R-5] VI. PRIOR ART MUST BE CONSIDERED IN ITS ENTIRETY, INCLUDING DISCLOSURES THAT TEACH AWAY FROM THE CLAIMS: A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) *In re Fulton*, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004). >See also MPEP §2123.

Response to Arguments

8. Applicant's arguments with respect to claims 1-9,15, and 18 have been considered but are moot in view of the new ground(s) of rejection. Regarding claims 1 and 9, Applicant argues Proctor completely fails to discuss splitting frames types, such as multi-receiver frames and mono-receiver frames. Further, Proctor fails to teach or suggest the claim 1 element of "multi-receiver frames are exchanged between a station

and a plurality of other stations indicating the transmitting station and the receiving station in an omnidirectional manner using an omnidirectional antenna and mono-receiver frames are exchanged between the transmitting station and the receiving station, in a directional manner using directional antennas at the transmitting station and the receiving station". The Examiner agrees that those limitations are not taught by Proctor, but they are definitely taught by admitted prior art and Okawa. If those limitations are taught by Proctor, then there won't be necessary to do 103 (a) rejection, rather it would be 102.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Proctor, JR. et al. (US Pub. No. 2006/0211374, claim 1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOMINIC E. REGO whose telephone number is (571)272-8132. The examiner can normally be reached on Monday-Friday, 9:00 am-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc M. Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dominic E. Rego/
Examiner, Art Unit 2618
Tel 571-272-8132